55. The method of claim 53, wherein said method further comprises monitoring workload and utilization of said at least one storage device or partitioned group of storage devices; and wherein said modeling utilization of said I/O resources is based at least in part on said monitored workload and utilization of said at least one storage device or partitioned group of storage devices.

56. The method of claim 53, wherein said method further comprises allocating said I/O resources between background processing activities and delivery of said continuous media data; and if said storage system has insufficient I/O capacity or insufficient buffer memory space to support a request for delivery of said continuous media data to said new viewer or said existing viewer returning from cache state of said storage system, then re-allocating at least a portion of said I/O resources from said background processing activities to said delivery of said continuous media data and again performing said admission control and said determining read-ahead size based at least in part on said re-allocated I/O resources.

57. The method of claim 51, wherein said storage system has an existing cycle time and an existing read-ahead size, and wherein said method further comprises leaving said existing cycle time and said existing read-ahead size unchanged if no new viewer is admitted to I/O state and no existing viewer is returned from cached state to I/O state; or performing the following steps if an I/O request is received from a new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system:

modeling utilization of at least one I/O resources of said storage system based at least in part on admittance of said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system;

determining if a possible value or range of possible values of cycle time exist to balance said I/O capacity with said buffer memory space, wherein said I/O capacity is

balanced with said buffer memory space based at least in part on said modeled I/O resource utilization;

admitting said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system if a possible value or range of possible values of cycle time exists to balance said I/O capacity with said buffer memory space;

refusing to admit said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system if a possible value or range of possible values of cycle time is determined not to exist to balance said I/O capacity with said buffer memory space.

58. The method of claim 57, wherein said method further comprises refusing to admit said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system if a predetermined range of possible values of cycle time is determined not to exist to balance said I/O capacity with said buffer memory space.

59. The method of claim 57, wherein if a possible value or range of possible values of cycle time exists to balance said I/O capacity with said buffer memory space, then performing one of the following steps prior to admitting said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system:

leaving the existing value of cycle time and the existing value of read-ahead size unchanged if the existing value of cycle time is equal to said determined possible value of cycle time to balance said I/O capacity with said buffer memory space, or if the existing value of cycle time is within said determined range of possible values of cycle time to balance said I/O capacity with said buffer memory space; or

if the existing value of cycle time is not equal to said possible value of cycle time determined to balance said I/O capacity with said buffer memory space or is not within said range of possible values determined to balance said I/O capacity with said buffer memory space, then determining a new value of cycle time for said storage system that is equal to said determined possible value of cycle time to balance said I/O capacity with said buffer memory space, or that is within said determined range of possible values of cycle time to balance said I/O capacity with said buffer memory space; and determining a new value of read-ahead size for said storage system based at least in part on said new value of cycle time for said storage system.

60. The method of claim 57, wherein prior to refusing to admit said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system, said method further comprises:

re-allocating at least a portion of said I/O resources from background processing activities to said delivery of said continuous media data;

modeling utilization of at least one I/O resources of said storage system based at least in part on said re-allocated I/O resources and based at least in part on admittance of said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system;

determining if a possible value or range of possible values of cycle time exist to balance said I/O capacity with said buffer memory space, wherein said I/O capacity is balanced with said buffer memory space based at least in part on said modeled I/O resource utilization based at least in part on said re-allocated I/O resources; and then

admitting said new viewer or existing viewer returning from said cached state of said storage system to said I/O state of said storage system if a possible value or range of